Electronic Version
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Claims

[c1] 1. A computer-implemented method to facilitate controlling spare parts inventory within a manufacturing plant, the manufacturing plant having a number of workstations at different locations in the plant, the method comprising:

associating each unit of inventory with identification data, a location data, and operational needs data, the operation needs data representing a quantity of spare part units needed for desired plant manufacturing levels, storing inventory data at a common base station, the inventory data representing units of spare parts inventory according to their identification, location, and operational needs data;

transmitting signals representative of a spare parts search request from a user to the base station;

processing the signals with the inventory data to obtain a search result, the search result representing the identification and location data for each unit in the spare parts search request and also an available quantity of the spare part units relative to the quantity of spare part units needed for the desired manufacturing levels; and

transmitting the search results to the user.

[c2] 2. The method of claim 1 further comprising decentralizing the spare parts inventory by dispersing the spare parts throughout the different workstation locations in the manufacturing plant, locating and retrieving the dispersed spare parts by transmitting search requests to the base station.

[c3] 3. The method of claim 2 wherein dispersing the spare parts comprises checking out the spare parts from a plant crib, the identification and location data associated with the spare parts when checked out.

[c4] 4. The method of claim 1 further comprising associating vendor data with each spare part, the vendor data stored with the inventory data for representing vendors to be used for purchasing new spare parts, the search result also representing the vendor data.

[c5] 5. The method of claim 3 further comprising purchasing new spare parts through a blanket purchase order represented in the vendor data.

[c6] 6. The method of claim 1 further comprising associating key contact data with each spare part, the key contact data stored with the inventory data for representing persons within the manufacturing plant responsible for controlling removal of spare parts from the work stations

associated with each location data, the search result also representing the key contact data.

[c7] 7. The method of claim 1 further comprising processing in the base station the inventory data for automatically generating a usage report.

[c8] 8. The method of claim 7 wherein generating the usage report comprising representing parts needed, the parts need representing only the spare parts having available quantities which are less than the quantity needed for the desired plant manufacturing levels.

[c9] 9. The method of claim 7 wherein generating the usage report relates to an excessive usage, the excessive usage representing only the spare parts having available quantities which are greater than the quantity needed for the desired plant manufacturing levels.

[c10] 10. The method of claim 7 wherein generating the usage report relates to a historical usage, the historical usage representing usage of the spare parts relative to the operational needs data and a historical period of time.

[c11] 11. The method of claim 7 wherein generating the usage report relates to a critical parts list, the critical parts list representing spare parts critical to the operational needs data.

[c12] 12. The method of claim 1 further comprising retrieving a spare part from one of the workstations based on the location data, returning a bar code card to a drop-box for indicating retrieval of the spare part, the bar code card including the identification and location data for the spare part, scanning the bar code card and transmitting signals representing bar code data to the base station, processing the signals for automatically updating in the base station the available quantity of the retrieved spare part.

[c13] 13. The method of claim 1 further comprising storing inventory data for multiple manufacturing plants, transmitting signals representing a plant or global search, the plant search restricted to the plant originating the signals and spare parts located therein, the global plant search including each of the multiple manufacturing plants and spare parts located therein.

[c14] 14. The method of claim 1 wherein the location data includes a plant name, a department name, a workstation location, an operator name, and a drawer position.

[c15] 15. The method of claim 14 further comprising transmitting a signal representing a security data with the search request, the security data representing which location

data are represented in the search result.

[c16] 16. The method of claim 1 wherein the identification data includes a keyword, a part description, a remark, a manufacturer part number, a vendor part number, a bar code number, a vendor name, a vendor contact link, a unit cost, a critical designation, and a blue print number.

[c17] 17. The method of claim 1 further comprising providing multiple computers within the manufacturing plant, the multiple computers usable by each plant employee for searching for spare parts, each computer includes a graphical user interface to facilitate transmitting and receiving signals from the base station and also to display the search results to the user.

[c18] 18. A computer-implemented method to facilitate controlling spare parts inventory within a manufacturing plant, the manufacturing plant having a number of work stations at different locations in the plant, the method comprising:

storing inventory data at a common base station, the inventory data representing units of spare parts inventory according to identification, location, and operational needs data;

transmitting signals representative of a spare parts search request from a user to the base station;

processing the signals with the inventory data to obtain a search result, the search result representing the identification and location data for each unit in the spare parts search request and also an available quantity of the spare part units relative to the quantity of spare part units needed for the desired manufacturing levels; transmitting the search results to the user; and automatically updating in the base station the available quantity of spare parts by retrieving a spare part from one of the workstations based on the location data, returning a bar code card to a drop-box for indicating retrieval of the spare part, the bar code card including the identification and location data for the spare part, scanning the bar code card and transmitting signals representing bar code data to the base station, processing the signals for automatically updating in the base station the available quantity of spare parts.

[c19] 19. A computer-implemented method to facilitate controlling decentralized spare parts inventory within a manufacturing plant, the manufacturing plant having a number of work stations at different locations in the plant, the method comprising:
decentralizing the spare parts inventory by dispersing the spare parts throughout the different workstation locations in the manufacturing plant to promote lean man-

ufacturing by making the spare parts available where needed without requiring a crib system to checkout the spare parts;

storing inventory data at a common base station, the inventory data representing units of spare parts inventory according to identification, location, and operational needs data;

transmitting signals representative of a spare parts search request from a user to the base station;

processing the signals with the inventory data to obtain a search result, the search result representing the identification and location data for each unit in the spare parts search request and also an available quantity of the spare part units relative to the quantity of spare part units needed for the desired manufacturing levels; and

transmitting the search results to the user.

[c20] 20. The method of claim 19 wherein dispersing the spare parts comprises initially checking out the spare parts from a plant crib, the plant crib for receiving the spare parts from the vendor, the identification and location data being associated with the spare parts when checked out.